

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL04/00515

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12P 19/34, C07H 21/04

US CL : 435/91.1, 91.2, 91.5, 91.51, 91.52; 536/24.2, 24.33

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 435/91.1, 91.2, 91.5, 91.51, 91.52; 536/24.2, 24.33

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	HITE et al. Factors affecting the fidelity of DNA synthesis during PCR amplification of d(C-A)n d(G-T)n micorsatellite repeats, Nucleic Acids Research. 1996, Vol. 24 No. 12, pages 2429-2434 especially abstract.	1-3, 5-9, 21 and 23
X	US 5,183,748 A (SIMONCSITS et al) 2 February 1993 (02.02.1993), see figure 10, col. 4, line 24-35.	10, 13, 17-19 and 22
Y	US 6,548,277 B1 (SHUMAN) 15 April 2003 (15.04.2003), see bridging paragraph, col. 7-8.	1-3, 5-9, 21 and 23
Y	ZHANG et al. Single-stranded DNA ligation by T4 RNA ligase for PCR cloning of 5'-non-coding fragments and coding sequence of a specific gene. Nucleic Acids Research. 1996, Vol. 24, No. 5, pages 990-991, see especially figure 1 and page 991, col. 2, paragraph 1.	1-3, 5-9, 14, 15, 20, 21 and 23

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

01 November 2004 (01.11.2004)

Date of mailing of the international search report

13 JAN 2005

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Maria B Marvich, PhD
Telephone No. (571) 272-1600

J. Roberts for

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
 2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
 3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
 4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
- Remark on Protest ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

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BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-9, 20 and 21, drawn to a method of cloning nucleic acid comprising ligation of a primers comprising restriction sites to the 5' and 3' end of single stranded DNA.

Group II, claim(s) 10-20 and 22, drawn to a method of cloning nucleic acid comprising ligation of a adaptors comprising restriction sites to the 5' and 3' end of single stranded DNA.

Group III, claim(s) 23, drawn to a process of digesting single stranded nucleic acid.

Group IV, claims 24-27, drawn to double stranded adaptors.

PCT Rule 13.2 requires that unity of invention exists only when the shared same or corresponding technical feature is a contribution over the prior art. The inventions listed as Group I-IV do not related to a single general inventive concept because they lack the same or corresponding technical feature. The "special technical feature" of Group I is a method of cloning nucleic acid comprising ligation of a primers comprising restriction sites to the 5' and 3' end of single stranded DNA, which does not share a special technical feature with Group II and Group IV and furthermore is s Zhang et al (NAR, 1996, Vol 24 (5), pages 990-991; see entire document) in view of Shuman (US 6,548,277 B1; see entire document) and further in view of Hite et al (NAR, 1996, Vol. 24 (12), pages 2429-2434), to lack novelty of inventive step and does not make a contribution over the prior art.

Continuation of B. FIELDS SEARCHED Item 3:
East databases-USPAT, PGPUB < EPO, JPO, Derwent, IBM-IBD
STN databases-Medline, Caplus, Scisearch